

SKVORTSOV, S.G., inzh.; BYKOVSKIY, G.P., inzh.; VASINA, I.N., inzh.; VORONIN,
A.D., inzh.; GEL'BSHTAYN, I.V., inzh.; POLYAKOV, L.L., inzh.;
GRECHUSHNIKOV, G.A., inzh., red.

[Catalog of designs of stands, construction yards, equipment and
devices for making prestressed reinforced concrete elements]
Al'bom-katalog proektov stendov i poligonov, oborudovaniia i
prispособlenii dlia izgotovleniia predvaritel'no napriashennykh
zhelezobetonnykh konstruktsei. Moskva, TSentr. biuro tekhn. inform.
(MIRA 11:10)
No. MZh-2. 1957. 118 p.

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledo-
vatel'skiy institut tekhnicheskoy pomoshchi stroitel'stvu.
(Prestressed concrete)

BYKOVSKIY, G. P. Cand Tech Sci --(diss) " Study of rational methods of
the manufacture of wire ^{blocks} ~~blocks~~ for pre-^{stressed} ~~strained~~ reinforced-concrete
structures." Mos, 1958. 14 pp (Min of Higher Education USSR. Mos Order
of Labor Red Banner Construction Engineering Inst im V. V. Kuybyshev),
150 copies (KL, 52-58, 101)

BYKOVSKIY, G.P., inzh.

Making prestressed reinforced concrete composite beams. Stroil. prom.
36 no.2:9-11 F '58. (MIRA 11:2)

1. Orgstroy.

(Girders)

ACC NR: AP7001827

SOURCE CODE: UR/0119/66/000/012/0019/0021

AUTHOR: Bykovskiy, I. D. (Engineer); Polyak, M. N. (Engineer)

ORG: none

TITLE: Accumulator-type counter using ferrite cores

SOURCE: Priborostroyeniye, no. 12, 1966, 19-21

TOPIC TAGS: pulse counter, pulse accumulation

ABSTRACT: The design of a multilevel flux counter is presented. One stage of this counter is shown in Fig. 1. The principle of operation is as follows: the input core is periodically switched by the input pulses. This in turn switches a fixed quantity of flux in core C_1 so that it is completely switched from negative to positive saturation only after the application of the n -th pulse. The C_1 core is then reset for the next cycle by a biased blocking oscillator circuit. The authors derive formulas for permissible deviation of critical parameters including the average incremental flux change $\Delta\Phi_1$ in core C_1 . A special test circuit is presented which selects cores C_1 according to parameter $\Delta\Phi$. A two-stage pulse counter based on this principle was built and tested. The value of n for each stage was 4. The counter utilized

UDC: 621.374.32

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ACC NR: AP7001827

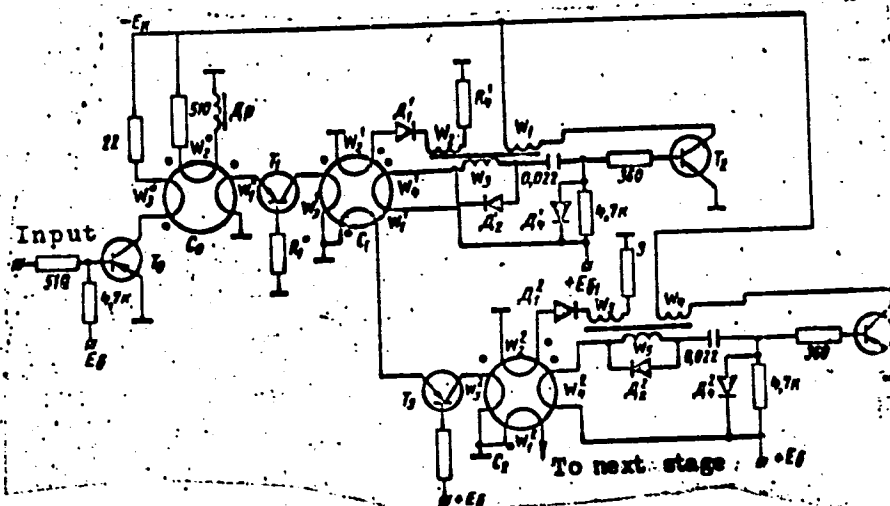


Fig. 1. Multilevel flux counter stage.

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ACC NR: AP7001827

VT-5 cores (OD, 7 mm; ID, 5mm; H, 2mm) and P-16 transistors. The repetition frequency of the input pulses was 10 kc. The counter operated successfully when the supply voltage was varied by no more than 20%. Orig. art. has: 8 formulas and 2 figures. [8D]

SUB CODE: 09/ SUBM DATE: none/ ORIG REF: 002/ ATD PRESS: 5110

Card 3/3

L 32067-66 EWT(1)/EWT(m) RO
ACC NR: AR6016159

SOURCE CODE: UR/0058/65/000/011/A050/A050

AUTHOR: Pchel'nikov, M. N.; Markov, K. P.; Bykovskiy, N. N.

TITLE: Apparatus for radiometry of gases and liquids

SOURCE: Ref. zh. Fizika, Abs. 11A¹⁹417

REF SOURCE: Tr. Soyuzn. n.-i. in-ta priborostr., vyp. 1, 1964, 167-181

TOPIC TAGS: radiometry, radioactive contamination, atmospheric contamination, radioactive aerosol, nuclear decontamination

ABSTRACT: It is noted that the development of the atomic industry, the extensive use of radioactive isotopes in the national economy, and tests of atomic and hydrogen weapons unavoidably increase the amount of liquid and gaseous radioactive waste in the biosphere. All this has made more acute need for combatting contamination of the biosphere. A brief review is presented of the work performed at SNIIP in recent years on the development of procedures and apparatus for the control of radioactive aerosols and water contaminated with radioactive substances. The principal problems of radiometric control of air are discussed. Sources and composition of radioactive aerosols of commercial origin are considered. The main requirements which are imposed on an aerosol radiometer are formulated. Methods and instruments for intermittent and continuous monitoring of radioactive aerosols in manufacturing areas are described. Specific features of the problem of control of gas waste from radiochemical enterprises are considered. Instruments and apparatus for the control of contamination of

Card 1/2

L 32067-66

ACC NR: AR6016159

air in uranium (thorium) mines and enriching factories are described. Methods and instruments used for radiometry of liquid media are also described. Ways of further development of these procedures are noted. L. I. [Translation of abstract]

SUB CODE: 18, 06

Card

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I 47101-66 EWT(1)/EWT(m) RC
ACC NR: AR6016489

SOURCE CODE: UR/0272/65/000/012/0105/0105

AUTHOR: Pchel'nikov, M. N.; Markov, K. P.; Bykovskiy, N. N.

TITLE: Equipment for radiometry of gas and liquid media

SOURCE: Ref. zh. Metrologiya i izmeritel'naya tekhnika, Abs. 12.32.910

REF SOURCE: Tr. Soyuzn. n.-i in-ta priborostr., vyp. 1, 1964, 167-181

TOPIC TAGS: Radiometer, radioactive aerosol, air pollution, radioactive substance

ABSTRACT: A brief review was made of some works completed at the SNIIP in recent years, of the development of methods and equipment for testing radioactive aerosols and water contaminated with radioactive substances. Basic aspects of radiometric testing of the atmosphere were discussed. The radioactive sources and the composition of radioactive aerosols of industrial origin were considered. The basic requirements for aerosol radiometers were formulated. The methods and equipment for single and continuous control of radioactive aerosols in industrial buildings were described and specific characteristics of the problem of controlling gas waste by radiochemical

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UDC: 389:539.16.07

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ACC NR: AR6016489

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plants were noted. Devices and equipment for controlling air pollution in uranium (thorium) mines and ore processing plants were described. Methods and equipment used for radiometry of liquid media were also described. Plans have been outlined for the future development of these methods. [Translation of abstract] [FM]

SUB CODE: 18/

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Card 2/2

BYKOVSKIY, O. L.

TROSHICHEV, V. M. - Khudozhnik i, GROMOV, V. L. - Kand. Tekh. Nauk, POKHELES, E. L. - Arkh., PSHENICHNIKOVA, O. S. - Arkh., BUYANOV, Yu. P. - Inzh., BYKOVSKIY, O. L. - Arkh., BAYAR, O. G. (Rukovoditel'temy) - Kand. Arkhitektury, MAKOTINSKIY, M. P. - Kand. Arkhitektury, RABINOVICH, I. L. - Arkh., CHERIKOVER, L. Z. - Arkh., ANDREYEVSKIY, V. G. - Kand. Tekhn. Nauk

Nauchnoissledovatel'skiy institut stroitel'noy tekhniki Akademii arkhitektury SSSR

Fredlozheniya po oborudovaniy i otdelke kvartir mnogoetazhnykh zhilykh domov v moskve (Al'bom)

Page 67

SO: Collection of Annotations of Scientific Research Work on Construction, completed in 1950. Moscow, 1951

KOTLYARCHUK, Pavel Antonovich; BYKOVSKIY, V., red.

[Workshop in a suitcase; "IUnyi tekhnik" universal machine]
Masterskaia v chemodane; universal'nyi stanok "IUnyi tekhnik."
Kalininskoe knizhnoe izd-vo, 1958. 29 p. (MIRA 12:2)

1. Slesar' Kalininskogo vagonostroitel'nogo zavoda (for Kotlyarchuk).
(Woodworking machinery) (Metalworking machinery)

1. BYKOVSKIY, V. A.
2. USSR (600)
4. Zinc Phosphide
7. Pre-planting treatment of acorns with zinc phosphide in order to protect them from susliks and other rodents, Dokl. Akad. sel'khoz., 17, No. 12, 1952.
9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

BYKOVSKIY, Valeriy, podpolkovnik, Geroy Sovetskogo Soyuzn, letchik-
kosmonavt SSSR

Toward new space flights. Av. i kosm. no.2:30-34 F '66.
(MIRA 19:1)

~~1-20076-66~~

ACC NR: AP6007296

FED/FSS-2/ENT(1)/REC(k)-2/EWA(d) TT/DD/GW

SOURCE CODE: UR/0209/66/000/002/0030/0034

AUTHOR: Bykovskiy, V. (Lieutenant colonel; Hero of the Soviet Union; Cosmonaut pilot)

ORG: none

79

B

TITLE: Toward new trips [Discussion of lunar flights]

SOURCE: Aviatsiya i kosmonavtika, no. 2, 1966, 30-34

TOPIC TAGS: manned spacecraft, lunar probe, soft landing spacecraft, lunar landing, lunar flight

ABSTRACT: Included in a discussion of the lunar radio-astronomy research conducted by scientists at the Radiophysics Institute of the Gor'kiy University im. Lobachevskiy, the Physics Institute of the USSR Academy of Sciences, and at the Pulkovo Observatory, is information concerning some Soviet requirements for a manned lunar spacecraft. A lunar flight will require a multipassenger craft capable of prolonged flight. It must be equipped with maneuvering systems capable of not only changing orbital parameters and making trajectory corrections, but also of performing rendezvous and docking. Much was done in solving this problem during the twin flights of Soviet cosmonauts in 1962-1963. In 1962 great accuracy was achieved in orbiting spacecraft a short dis-

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ACC NR: AP6007296

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tance from one another. At that time the Vostoks were not equipped with maneuvering systems, but their development has been progressing "full speed." The flights of the Polet craft demonstrated the feasibility of extensive maneuvering, including multiple orbital changes. Soft landings on Earth were successfully made by the two Voskhod craft using parachutes and rocket engines. The use of parachutes in a lunar landing is not feasible. Therefore, the use of engines of varying thrust would appear to be the most likely method of accomplishing a soft lunar landing. By controlling the magnitude and direction of their thrust, the spacecraft's commander will be able to land his ship in a predetermined area. An analysis of the results obtained from astronomical observations, the launch of automatic lunar probes for hard and soft landings, and lunar radar studies will facilitate introducing final corrections into the design of a ship or special module for a lunar landing. The success of Soviet scientists and engineers in developing single and multipassenger spacecraft for a whole series of scientific and technical purposes makes it possible to hope that a ship for a flight around the moon and to the moon will be built. [SA]

SUB CODE: 22/ SUBM DATE: none/ ATD PRESS: 4223

Cont 212 BK

BYKOVSKIY, V.A., kand. biol. nauk; KRIKUNOV, D.F., inzh.-mekhanik

Mechanized spot placement of poisoned baits. Zashch. rast. ot
vred. i bol. 4 no. 1:20-21 Ja-F '59. (MIRA 12:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zashchity
rasteniy.

(Suslike--Extermination)

BYKOVSKIY, Valeriy Fedorovich, letchik-kosmoravt SSSR, Geroy
Sovetskogo Soyuz; NIKOLAYEVA-TERESHKOVA, Valentina
Vladimirovna, letchik-kosmonavt SSSR, Geroy Sovetskogo
Soyuz; KHEKHLOVSKAYA, N.S., red.; KAMANII N.P.,
general-leytenant aviatsii, red.

[Hello, universe!] Zdravstvui, vselennai! Moskva, So-
vetskaia Rossiia, 1964. 212 p. (MIRA 17:10)

ACCESSION NR: AP4034805

S/0293/64/002/002/0320/0329

AUTHOR: Delone, N. L.; Bykovskiy, V. F.; Antipov, V. V.; Parfenov, G. P.; Vyssotskiy, V. G.; Rudneva, N. A.

TITLE: Effect of Vostok-5 and Vostok-6 space flights on Tradescantia paludosa microspores

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 2, 1964, 320-329

TOPIC TAGS: space flight, Vostok 5, Vostok 6, microspore, mitosis, vibration, acceleration, weightlessness, Tradescantia

ABSTRACT: Exposure of Tradescantia microspores to orbital flights in Vostok-5 and Vostok-6 spaceships adversely affected the mitotic mechanism. Cytological analysis of the samples revealed five types of abnormalities: Type I, incomplete mitosis due to nondisjunction of chromosomes; Type II, "rosette" chromosome alignment on the metaphase plate; Type III, nondisjunction aberrations in spindle orientation (the nuclei in the experimental and in the control spores are located in different planes); Type IV, nondisjunction of chromosomes or delayed telophase; Type V, multipolar mitosis leading to the formation

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ACCESSION NR: AP4034805

of polynucleated cells. Comparison of experimental and control samples indicated that the aberrations described are due to such factors as accelerations and vibrations rather than to weightlessness. It was concluded that weightlessness has no significant zonetec effect within time limits of 120 hr. Orig. art. has: 5 figures and 6 tables.

ASSOCIATION: none

SUBMITTED: 11Dec63

DATE ACQ: 20May64

ENCL: 00

SUB CODE: PH, IS

NO REF SOV: 001

OTHER: 000

ATD PRESS: 3041

Card 2/2

DELONE, N.L.; BYKOVSKIY, V.F.; ANTIPOV, V.V.

Development of disturbances in the mitosis mechanism of *Tradescantia paludosa* microspores under the influence of different flight periods on the Vostok-5 spaceship. Dokl. AN SSSR 159 no.2:439-441 N '64. (MIRA 17:12)

1. Predstavleno akademikom N.M. Sisakyanom.

BERENSHTEYN, A.F.; BYKOVSKIY, V.K.

Steffen waste used as feeding stuff. Spirt. prom. 25 no.4:23-25
'59'. (MIRA 12:7)
(Distilling industries—By-products) (Feeds)

BYKOVSKIY, V. N. Cand. Tech. Sci.

Dissertation: "Additional Stresses in Joints of Glued Wooden Constructions."
Moscow Order of the Labor Red Banner Construction Engineering Inst imeni V. V.
Kuybyshev, 3 Feb 47.

SO: Vechernyaya Moskva, Feb, 1947 (Project #17836)

BYKOVSKIY, V. N.

22655

Elementy Derevyannykh Kleemykh Konstruktsiy v Usloviyakh Peremennoy i Povyshennoy Vlazhnosti. Sbornik Trudov (Nauch. - Issled. In-t Po Stroit - Vu), I, 1949, s. - 103-09. - Bibliogr: 5 Nazv.

SO: LETOPIS No. 34 *Elements of woodglue constructions under conditions of changing & rising humidity.*

BYKOVSKIY, V. N.

BYKOVSKIY, V. N. I SOKOLOVSKIY, B. S.

36200 Issledovaniye mestnogo smyatiya drevesiny poperek volokon. Sbornik trudov (Nauch-
issled. in-t po stroit-vu). 2, 1949, S. 38-45.

Study of local warping of wood across grain

SO: Letopis' Zhrunal' nykh Statey, No. 49, 1949

BYKOVSKIY, V. N.

36042 Raspredeleniye napryazheniy v shvakh kleyenykh paketov. Sbornik trudov
(Nauch-issled. in-t po stroit-vv). 2, 1949, S. 51

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, 1949

Distribution of stress in joints of glued pile-ups.

BYKOVSKIY, V. N., KAND. TEKH. NAUK

NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT PO STROITEL'STVU. MINISTERSTVA STROITEL'STVA PREDPRIYATIY
MASHINOSTROYENIYA

RAZABOTKA SPOSOBOVRASCHETA DEREVYANNYKH KONSTRUKTSIY PO PREDEL'NYM SOSTOYANIYAM. PAGE 42

SO: SBORNIK ANNOTATSIY NAUCHNO-ISSLEDOVATEL'SKIKH RABOT PO STROITEL'STVU, MOSCOW, 1951

Working of of method of calculation of wood construction, in limited conditions

BYKOVSKIY, V. N., KAND. TEKH. NAUK, I

GUSEVA K. V., INZH.

NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT PO STROITEL'STVU
MINISTERSTVA STROITEL'STVA PREDPRIYATIY MASHINOSTROYENIYA

ULUCHENIYE TEKHNologii IZGOTOVLENIYA KLEYENIKH KONSTRUKTSIY. PAGE 42

SO: SBORNIK ANNOTATSIY NAUCHNO-ISSLEDOVATEL'SKIKH RABOT PO STROITEL'STVU, MOSCOW 1951

Improvement of technology of preparation of glued constructions.

1. BYKOVSEIY, V.
2. USSR (600)
4. Construction Industry
7. Shortcomings in the work of some construction trusts.
Za ekon. mat. no. 3, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

BYKOVSKIY, V.F., kosmonavt; TERESHKOVA, V.V., kosmonavt

Concise diary of the flight of astronauts V.F.Bykovskii and V.V.
Tereshkova. Priroda 52 no.7:11-13 J1 '63. (MIRA 16:8)
(Astronauts)

1. BYKOVSKIY, V.N.
2. USSR (600)
4. Building
7. Time factor in calculations for wooden structures., Stroi.prom.,
30, No.11, 1952
9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

USSR/Physics-Strength of wood

FD-1228

Card 1/1

Pub. 153-12/22

Author

: Bykovskiy, V. N.

Title

: Determination of durability of wood, based on study of fatigue deformation

Periodical

: Zhur. tekhn. fiz., 24, 1631-1635, Sep 1954

Abstract

: A continuation of author's previous study (ZhTF, 21, No 10, (1951)) presents a method to compute ordinates of the curve of decreasing strength from experimental data of fatigue deformation. Formulas expressing the stress immediately preceding the breaking point are derived. Four references.

Institution :

Submitted

: October 12, 1953

BYKOVSKIY, Vadim Nikolayevich, doktor tekhnicheskikh nauk; DOROFYEV,
~~was~~ A.A., redaktor; ROSTOVTSOVA, M.P., redaktor; PERSON, M.N., tekhnicheskij redaktor

[Glue in construction work] Klei v stroitel'nykh konstruktsiyakh.
Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1955.
65 p. (Adhesives) (MLRA 8:6)

SOV/124-58-3-3584

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 138

AUTHOR: Bykovskiy, V. N.

TITLE: Application of the Mechanics of Viscoelastic Bodies to the Formulation of a Theory of the Strength of Wood Including Time-factor Considerations (Primeneniye mekhaniki uprugovyazkikh tel k postroyeniyu teorii soprotivleniya drevesiny s uchetom faktora vremeni)

PERIODICAL: V sb.: Issledovaniya prochnosti i deformativnosti drevesiny. Moscow, Gos. izd-vo lit. po str-vu i arkhitekture, 1956, pp 32-41

ABSTRACT: The author proposes an analytical model consisting of a viscoelastic body which is subjected to linear deformation. The following criteria are introduced: A conventional, instantaneous modulus of elasticity; a long-term modulus of elasticity and a period of relaxation which are determined by means of special tension and compression tests of wood and which were found to be practically constant under various stresses. A satisfactory coincidence was demonstrated to exist between the theoretical and the experimental curves of after-effect deformation. Conditions of the transition of the system into the ultimate-stress

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SOV/124-58-3-3584

Application of the Mechanics of Viscoelastic Bodies (cont.)

state are examined, and a connection between the ultimate strength of the wood and the time of its destruction is established. It is demonstrated that the rate of loading affects the magnitude of the ultimate tensile strength and the limit of plastic flow; it is established that the ultimate strain remains unaltered in the process.

B. N. Ugolev

Card 2/2

PHASE I BOOK EXPLOITATION 731

Bykovskiy, V. N., Doctor of Technical Sciences, Professor

Soprotivleniye materialov vo vremeni s uchetom statisticheskikh faktorov (The Time Element in the Strength of Materials With Consideration of Statistical Factors) Moscow, Gosstroyizdat, 1958. 149 p. 4,000 copies printed.

Ed. of Publishing House: Yegorova, N. O.; Tech. Ed.: Person, M. N.

PURPOSE: The book is intended for scientific workers, designers and civil engineers doing research in the field of strength of materials and structures.

COVERAGE: The book presents a theory of the origin and development of deformations and failures in materials. Materials are considered as elastoviscous nonhomogeneous media. Changes (nonchemical) in deformations and in the ultimate strength of materials depending on the mode of application with respect to time, of loads are explained by phenomena connected with redistribution of molecular forces. Methods of computing these changes are presented. The theory developed is supported by experimental data obtained for the

Card 1/5

The Time Element in the Strength (Cont.)

731

mechanical properties of wood and of similar materials. The application of this theory to problems of strength of metals concrete and asbestos cement is also shown. The author thanks Academician F. P. Belyarkin, and I. K. Snitko, Candidate of Technical Sciences for help and mentions the great significance of the works of Academician P. A. Rebinder in relation to the problems treated in this book. There are 68 references of which 61 are Soviet, 4 English, 2 German.

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The Time Element in the Strength (Cont.)

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The Time Element in the Strength (Cont.)

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AVAILABLE: Library of Congress

Card 5/5

GO /umd
10-22-58

BYKOVSKIY, V.N., prof., doktor tekhn. nauk

Using semilogarithmic deformation graphs in determining
the limit of durable wood resistance. Nauch. trudy MLTI
no.8:50-56 '58. (MIRA 13:3)
(Wood) (Strength of materials--Graphic methods)

SERGOVSKIY, P.S.; BYKOVSKIY, V.N.; SAMUYLO, V.O.

Elastic-plastic properties of wood as related to the stresses
and deformations during its drying. Der.prom. 10 no.6:3-6
Je '61. (MIRA 14:7)

1. Moskovskiy lesotekhnicheskii institut.
(Lumber—Drying) (Wood)

BEKOVSKIY, V. S.

BEKOVSKIY, V. S.= "Investigation of the working processes of a bulldozer in building up a railroad roadbed." Min Transport-Machine Building USSR. All-Union Sci Res Inst of Transport-Machine Building. Moscow, 1956. (Dissertations for the Degree of Candidate in Technical Sciences).

SO: Knizhnyy Letopis' No. 22, 1956

BYKOVSKIY, V.S., kand.tekhn.nauk; KANEVSKIY, A.G., inzh.

Use of centralized communication systems in the construction of
new railroads. Transp.stroi. 11 no.3:11-12 Mr '61. (MIRA 14:3)
(Railroads--Construction)

BYKOVSKIY, V.S.; KANEVSKIY, A.G.; PETROV, A.F.; BIRYUKOV, V.D., inzh.,
retsenzent; DOESHITS, M.L., inzh., red.

[Dispatcher control in railroad construction] Dispetcherskoe
upravlenie zheleznodorozhnym stroitel'stvom. Moskva, Trans-
zheldorizdat, 1963. 95 p. (MIRA 16:5)

(Railroads--Construction)
(Railroads--Design and communication systems)

SEMIN, Ye.G.; SMITRIYEV, I.A.; STREKALOVSKIY, V.N.; BYKOVSKIY, V.S.

Catalyzed crystallization of a beryllium melt. Izv. AN SSSR.
Neorg. mat. 1 no.11:2026-2030 N '65. (MIRA 18:12)

1. Ural'skiy politekhnicheskii institut imeni S.M. Kirova,
Sverdlovsk. Submitted June 23, 1965.

B.I.A. BYKOVSKIY, V. Ya.

agrobiological research

6398* Selectivity of Tomatoes to Conditions of Root Feeding (Fertilizing.) (In Russian.) V. Ia. Bykovskii, Agrobiologia, May-June 1951, p. 154-155.
A study was made of the growth of response of roots to granules of fertilizer placed at various depths in the soil. Data are discussed, tabulated, and illustrated.

BYKOVSKIY, Ya.F.

Conversion of fractional columns to operation with reflux. Koks i
khim. no.7:3 of cover '56. (MLRA 9:12)

1. Yenakiyevskiy koksokhimicheskiy zavod.
(Distillation apparatus)

BYKOVSKIY, YA, L.

Bykovskiy, Ya. L., "Test Exploitation of Pulse Meters for Measuring Lines Constructed
by this Laboratory"

Institute of Radio Reception and Acoustics

SO: Radiotekhnika, No. 4, 1948; W-27801, 14 Sept. 1953,

BYKOVSKIY, Ya. L.

"Modern High Frequency Conduits for Electric Transmission Lines (Sovremennyye vysokochastotnyye kanaly po liniyam elektroperedachi) from the book Telemechanization in National Economy, pp. 85-96, Iz. AN SSSR, Moscow, 1956

(Given at meeting held in Moscow, 29 Nov to 4 Dec 54 by Inst. of Automatics and Telemechanics AS USSR)

BYKOVSKIY, YA.L., MIKUTSKIY, G.V., ORLOV, V.N., SIDELNIKOV, V.V.

"Characteristics of carrier current channels for teletransmission over power lines."

Report to be submitted for the 19th Biennial Session, Intl. Conf. on Large Electric Systems(CIGRE), Paris France, 16-26 May '62.

BYKOVSKIY, Comm. Lab., All-Union Scientific Research Inst. Electro Power Engineering.

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25970

S/539/60/000/031/003/014

E036/E135

S.4500

AUTHORS: Bundel', A.A., Guretskaya, Z.I., and Bykovskiy, Ye.S.
TITLE: The use of fluidized bed method for an interaction of sulphide-selenide luminophors with gaseous substances
PERIODICAL: Moscow. Khimiko-tekhnologicheskii institut. Trudy, No.31, 1960. Issledovaniya v oblasti khimii i tekhnologii elektrovakuumnykh materialov. pp. 20-28
TEXT: In the majority of cases luminescence of zinc sulphide and zinc sulphide-selenide luminophors is caused by some form of disturbance in the stoichiometry in the main substance of the luminophor - an excess of one of the components of the main substance or incorporation of a foreign element. The character and the degree of disturbance of the stoichiometry depend on the composition of the gaseous phase in contact with the substance during its ignition. In order to provide a good contact between the solid charge and the gaseous phase of a given composition, the authors applied the above method of heat treatment to an investigation of self-activated zincsulphide and zincsulphideselenide luminophors. The experimental procedure consisted of igniting
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The use of fluidized bed method for ...

10-15 g of an appropriate compound in a silica tube fluidized by a gas of the required composition. The losses of the material with the fluidizing gas were minimised by the self granulation of the charge. In the absence of melting, the granulation was done by charging somewhat wet material and fluidizing it before ignition. On drying, the charge forms granules from a few tenths to 1-2 mm in diameter. In the presence of a flux, the granulation takes place during the process of ignition. The composition and intensity of luminescent light of variously treated specimens (ZnO in H₂S; ZnS + 2% NaCl in argon; ZnS·Ag 1·10⁻⁴ + 2% NaCl in argon; ZnS · ZnSe in argon and hydrogen and the same substances in air) was recorded. The extinction of luminescence of self-activated luminophors after their ignition in a stream of an inert gas indicated that their luminescence was caused by volatile activators - zinc and selenium and that the process of extinction is due to the extraction of the activator from the luminophor's crystals. An ignition in a stream of hydrogen also leads to extinction, but in this case it is caused by an increase in the concentration of the activators. The reversibility of the process

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The use of fluidized bed method for... S/539/60/000/031/003/014
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of extinction, shown by the restoration of the output and spectral composition of the luminescence after ignition of an extinct specimen in air, indicates the ease of the exchange of the overstoichiometric zinc and selenium between solid and gaseous phases, as well as the existence of equilibrium ratios between the concentrations of zinc and selenium atoms in the solid and gaseous phases. A non-uniform velocity of extinction of zinc and selenium bands on ignition in argon and in hydrogen proves that the spectral curves of luminophors ZnS·ZnSe and ZnS·ZnSe·Ag which possess one maximum and no inflection points on the side branches, in fact represent a super-imposition of two bands - of zinc (respectively silver) and selenium. A.D. Pogorelyy and A.I. Rusanova are mentioned for their contribution in the field. There are 12 figures and 12 references: 8 Soviet, 2 German, 1 French and 1 English. The English language reference reads: Ref.11: H.A. Klassens, J. Electrochem. Soc., V.100, 72 (1953).

Card 3/3

BYKOVSKIY, Yu.A.

CARD 1 / 2

PA - 1434

SUBJECT USSR / PHYSICS
 AUTHOR KIKOIN, I.K., BYKOVSKIY, JU.A.
 TITLE On the Transversal Photomagnetic Effect in n - and p - Germanium.
 PERIODICAL Dokl. Akad. Nauk, 109, fasc. 4, 735-736 (1956)
 Issued: 10 / 1956 reviewed: 10 / 1956

In connection with the usual photomagnetic effect a field strength which is proportional to the field strength H occurs in the case of illumination along the Y-axis of a sample arranged in a magnetic field (having the direction of the X-axis) in the direction of the Z-axis. If, however, the magnetic field, apart from the component H_x , also has the component H_y , an electromotoric force which is proportional to the product $H_x H_y$ occurs additionally in the X-axis, and this is the transversal photomagnetic effect.

The experimental order is discussed in short. The sample under investigation, which has the shape of a plane rectangular plate, must be fixed at an angle α with respect to the direction of the magnetic field. The samples consisted of plane plates of the size $12 \times 6 \times 0,8$ (mm ?) and were cut out from a germanium monocrystal. The specific resistance of the samples was $45 \Omega \cdot \text{cm}$ in the case of p-germanium and $40 \Omega \cdot \text{cm}$ in the case of n-germanium. The samples were mounted in a glass tube on a ground carrier (slide) and the tubes with the samples were arranged between the poles of a large electromagnet. By rotating the ground carrier (slide) round its axis it was possible to modify the angle between the plane of the sample and the direction of the magnetic field. As expected, the transversal electromotoric force at $\alpha = 0$ was equal to zero, and at $\alpha = 45^\circ$ it

Dokl.Akad.Nauk, 109, fasc.4, 735-736 (1956) CARD 2 / 2

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attained its maximum value. A peculiar feature is the dependence of the transversal photoelectromotoric force on field strength. In the case of low field strengths this E , as may be expected, is proportional to H^2 . In the case of strong fields this dependence is essentially influenced by the temperature of the sample. At room temperature the electromotoric force increases monotonously with an increase of field strength. However, at lower temperatures it attains a maximum, passes through zero, and finally changes its sign. If the direction of the magnetic field changes, the sign of the transversal electromotoric force is conserved in any case. The magnetic field strength that corresponds to the maximum electromotoric force diminishes with a decrease of temperature. Therefore the temperature dependence of the transversal photomagnetic effect was investigated. In the case of p-germanium the transversal photomagnetic electromotoric force changes its sign twice, on which occasion it passes through a maximum. In the case of n-germanium no change of signs was found to occur in the temperature range investigated. The transversal photomagnetic effect is apparently produced by deflection of the current carriers moving in the direction of the photomagnetic electromotoric force.

INSTITUTION:

BYKOVSKIY, YU. A.

48-6-4/23

SUBJECT: USSR/Physics of Magnetic Phenomena

AUTHOR: Kikoin, I.K. and Bykovskiy, Yu.A.

TITLE: On the Transverse Photomagnetic Effect in n- and p-Germanium
(O poperechnom fotomagnitnom effekte v n- i p-germanii)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957,
Vol. 21, # 6, p 801 (USSR)

ABSTRACT:

The so-called transverse photomagnetic effect was investigated in single crystals of germanium. This effect, which arises in semiconductors during their illumination in a magnetic field, is proportional to the square of the field intensity and depends on the angle between the normal to the plane of a sample and the magnetic field direction.

A dependence of the transverse photomagnetic e.m.f. on the magnetic field and the temperature was established.

It was shown that in p-germanium the transverse photomagnetic e.m.f. reverses its sign at sufficiently intensive fields.

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48-6-4/23

TITLE: On the Transverse Photomagnetic Effect in n- and p-Germanium
(O poperechnom fotomagnitnom effekte v n- i p-germanii)

The value of field intensity at which sign reversal takes place depends on the intensity of illumination and temperature.

At low temperatures the sign reversal occurs at less intensive fields.

No references are cited.

ASSOCIATION: Not indicated

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress

Card 2/2

Bykovskiy, Yu. A.

20-3-9/46

AUTHORS: Kiko'in , I. K., Academician, Bykovskiy, Yu. A.

TITLE: On the Anisotropy of the Even (Transverse) Photomagnetic Effect in Germanium Monocrystals (Ob anizotropii chetnogo (poperechnogo) fotomagnitnogo effekta v monokristallakh germaniya)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 3, pp. 381 - 384 (USSR)

ABSTRACT: The author showed in two preliminary studies (ref. Nr 1 and 2) that within semiconductors besides the ordinary photomagnetic effect still another photomagnetic effect exists. This other effect has been called a transverse photomagnetic effect. This effect consists of the following: With an illumination of the sample (a plane plate, arranged in a magnetic field, whereby the direction of the magnetic field includes a certain angle with the direction of the plate-plane) there appears in it an electric field (and a corresponding potential difference) which is directed vertical to the electric field of the ordinary photomagnetic effect. The difference of the potentials of the "transverse" photomagnetic effect does not modify the sign with the reversal of the field direction. Therefore it is more practical to call this effect further the even photomagnetic effect. The equation $V_0 = AH^2 \sin 2\alpha$ applies to the potential difference caused by that even photomagnetic effect. Here de-

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On the Anisotropy of the Even (Transverse) Photomagnetic Effect in Germanium Monocrystals

note - H the magnetic field strength, α - the angle between the direction of the field H and the plane of the sample, A - the coefficient which depends on the light intensity, on the characteristics of the sample, on the condition of the surface, etc. The examination of this effect showed the following: It concerns a kind of Hall - (Khol) - effect which is produced by an odd photomagnetic current. In germanium monocrystals the even photomagnetic effect is in many circumstances different from that, observed in polycrystalline copper oxydide. The angle dependence $V_H = AH^2 \sin 2\alpha$ does not apply to monocrystals. The experimentally obtained angle dependence for germanium monocrystals is here shown in a diagram. Such a strong angle dependence only can be defined by assumption of an essential anisotropy of the effect. Therefore the authors investigate the anisotropy of the even photomagnetic effect. Practically round targets are used for the investigation. The teeth cut out of the target served as electrodes. These samples were brought into a magnetic field and irradiated in vertical direction to this field. The carrying out of the experiment manifested an essential dependence of the potential difference on the angle φ . Here this dependence for a sample of n-germanium is demonstrated in a diagram. There is obviously no simple correlation between the

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20-3-9/46

On the Anisotropy of the Even (Transverse) Photomagnetic Effect in Germanium Monocrystals

even and odd photomagnetic effect. There are 4 figures and 4 references, 3 of which are Slavic.

SUBMITTED: June 24, 1957

AVAILABLE: Library of Congress

Card 3/3

BYKOVSKIY, Yu. A.

"Investigation of the Photomagnetic Effects in Germanium"

dissertation for the degree of Cand. of Physico-Math. Sci. submitted at Moscow
Engineering-Phys. Inst.
Moscow, 1957.

Metallovedeniye i Obrabotka Metallov, 1958, No. 8, p. 63.

L 38876.66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6018564

SOURCE CODE: UR/0181/66/008/006/1931/1933

62
B

AUTHOR: Bykovskiy, Yu. A.; Yelesin, V. F.

ORG: Moscow Engineering-Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut)

TITLE: On the feasibility of the photomagnetic effect on "semilight" holes in germanium

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1931-1933

TOPIC TAGS: germanium semiconductor, semiconductor carrier, photomagnetic effect, absorption coefficient

ABSTRACT: Inasmuch as there are few published data on the holes of the band split off in germanium by spin-orbit interaction (with effective mass $m_3 = 0.077$, called "Semilight"), the authors have considered the possible realization of the photomagnetic effect (PME) on such holes. It is shown that to realize the PME it was necessary to illuminate doped samples of p-germanium with radiation of energy equal to the energy gap between the heavy and semilight hole bands ($\Delta E = 0.37$ ev). This produces a "bipolar" PME wherein, unlike in the "unipolar" one, both the heavy and the semilight holes participate. It is shown that the magnitude of the effect is proportional to the difference between the mobilities. The maximum PME is obtained when the absorption coefficient for the radiation exceeds the reciprocal of the diffusion length, and the velocity of surface recombination on the illuminated surface is negligible. An expression is obtained for the PME and for the corresponding short-circuit current

L 38876-66

ACC NR: AP6018564

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in this case. Orig. art. has: 1 figure and 4 formulas.

SUB CODE: 20/ SUBM DATE: 15Dec65/ ORIG REF: 001/ OTH REF: 004

na
2/2

BYKOVSKIY, YU. N., and KIKOIN, I. K. (Moscow)

"On the Transversal Photomagnetic Effect in Germanium," a paper submitted at the International Conference on Physics of Magnetic Phenomena, Sverdlovsk, 23-31 May 56.

AVAKYAN, A.A. BYKOVSKY, A.F. [Bykovskiy, A.F.]

The structure of intracellular variola virus. Acta virol.
(Praha) [Eng.] 8 no.6:481-489 N 1964

1. The Gamaleya Institute of Epidemiology and Microbiology,
U.S.S.R. Academy of Medical Sciences, Moscow.

S/179/60/000/006/023/036
E031/E135

AUTHOR: Bykovtsev, G.I., (Voronezh)
TITLE: On the Compression of a Plastic Layer by Rigid Wrought
Plates, Taking Account of Inertia Forces
PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
nauk, Mekhanika i mashinostroyeniye, 1960, No. 6,
pp. 140-142

TEXT: The plastic layer lies along the x-axis and is
compressed in the y-direction by two plates which move together
with constant velocity V . The length of the plates is much
greater than the thickness of the layer. The equations of state
according to the St. Venant-Mises theory are transformed by the
introduction of new variables

$$\alpha = x/h(t), \quad \beta = y/h(t)$$

where h is the thickness of the layer at time t . It is
assumed that the projections of the velocity vector on the y-axis
and θ (parameter in the Levi relations for the stress components)
are functions of β only. Integration of the equations
Card 1/2

S/179/60/000/006/023/036
E031/E135

On the Compression of a Plastic Layer by Rigid Wrought Plates,
Taking Account of Inertia Forces

introduces arbitrary functions of β and t : $F(\beta, t)$, $\varphi(\beta)$
and $f(t)$. $F(\beta, t)$ is assumed to have the form $\varphi(\beta) + Vf(t)$;
 $\varphi(\beta)$ is determined using the condition on θ and $f(t)$ by
assuming incompressibility. The components of velocity and
stress can now be found using expressions already given. The
pressure on the plates is seen to follow a parabolic law, as
opposed to the Prandtl solution which follows a linear law.
Various limiting cases are briefly discussed.
There are 3 Soviet references.

ASSOCIATION: Voronezhskiy Gosuniversitet
(Voronezh State University)

SUBMITTED: June 16, 1960

Card 2/2

EYKOVTSSEV, G.I. (Voronezh); IVLEV, D.D. (Voronezh)

Determining critical loading for bodies pressed in a plastic
medium. Izv. AN SSSR, Otd. tekhn. nauk. Mekh. i mashinostr.
no. 1:173-174 Ja-F '61. (MIRA 14:2)
(Plasticity)

BYKOVTSSEV, G.I. (Voronezh)

Torsion of prismatic rods made of an anisotropic totally plastic
material. Izv.AN SSSR.Otd.tekh.nauk.Mekh.i mashinostr. no.3:151-
157 My-Je '61. (MIRA 14:6)

(Torsion)

BYKOVSEV, G.I. (Voronezh)

Propagation of perturbations in a medium with nonlinear stress-
deformation linkage. PMTF no.4:102-108 '61. (MIRA 14:10)
(Strains and stresses) (Deformations (Mechanics))

BYKOVTSSEV, G.I. (Voronizh)

Velocity field created by inserting a flat stamp into a plastic half-space. Prikl. mat. i mekh. 25 no.3:552-553 My-Je '61.

(MIRA 14:7)

(Plasticity) (Deformations (Mechanics))

S/179/62/000/001/019/027
E114/E181

AUTHOR: Bykovtsev, G.I. (Voronezh)
TITLE: Drawing of a strip through a curved die under
conditions of plane deformation
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye
tekhnicheskikh nauk. Mekhanika i mashinostroyeniye,
no.1, 1962, 144-148
TEXT: A solution is proposed which dispenses with the
assumption that the material between the planes of entry and
exit from the die is wholly in a plastic state. A velocity
field is set up which satisfies the boundary conditions of the
die surface, and of the elastic-plastic boundary. The problem
is posed in the shape of the determination of a continuous flow
which will result in forming the strip to the desired profile
in its passage through the die. The equations of plastic flow
are converted to hyperbolic equations and by considering a
friction-free, well lubricated die surface, lines of flow are
established. It is assumed that the surface of the strip does
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Drawing of a strip through a curved... S/179/62/000/001/019/027
E114/E181

not begin to deform until it touches the die. The solution is not valid if the speed of drawing through the die is such that a standing wave of material in a plastic state appears in the strip in front of the die. A network of lines of flow is constructed showing the boundary between the plastic and elastic states. It is noted that the maximum pressure for which it is possible to obtain an analytical solution does not depend on the shape of the die, but on the angle which the surface of the strip makes with the die at the entry. Certain limitations are mentioned about the shape of the die for which it is possible to plot networks of flow lines analytically. This method is also applicable to the rolling of plates and sheet and to deep drawing of a thin-walled cup. There are 2 figures.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet
(Voronezh State University)

SUBMITTED: July 8, 1961

Card 2/2

L 10028-63

EWP(k)/EWP(q)/EWT(m)/BDS--APFTC/ASD--Pf-4--JD/HW/IJP

ACCESSION NR: AP3000381

S/0179/63/000/002/0066/0074

AUTHOR: Bykovtsev, G. I. (Voronezh)

TITLE: On the plane deformation of anisotropic ideally-plastic bodies

SOURCE: AN SSSR. Iz . Otd. tek . nauk. Mek anika i mashinostroyeniye, no. 2, 1963, 66-74

TOPIC TAGS: plasticity, plastic deformation, plastic anisotropy, press-forming of metals

ABSTRACT: The paper examines the plane deformation of anisotropic ideally-plastic bodies on the premise of the conditions of plastic yield previously set forth by D. D. Ivlev (PMM, v. 23, no. 6, 1959), V. V. Dudukalenko (ibid., v. 24, no. 5, 1960), M. S. Sarkisyan (ibid., v. 24, no. 6, 1960), et al. The relationships developed in the present paper for the condition of plasticity of an incompressible anisotropic ideally-plastic material coincide with those developed in the antecedent works, if it is assumed that the yield limits in tension and compression are equal. This plasticity conditions is further analyzed, and the following interpretation is offered: (1) For any given anisotropic ideally-

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L 10028-63

ACCESSION NR: AP3000881

plastic material there exists a line of limiting tangential stress such that, as soon as the tangential-stress distribution touches that line, plastic flow commences within the body. Upon comparison of the expressions for the slope of the area on which the limiting value of the tangential stress for a given yield relationship occurs with the slope of the area of maximum shear it is found that the two coincide. An analytical determination is made of the location of the line of velocity discontinuities (failure), that is, that line along which the discontinuity of the tangential components is constant, whereas the normal component is continuous in transiting through the discontinuity line. The next step is an analysis of the maximum load on a wedge uniformly loaded by a pressure along one of its sides. Assuming again anisotropy of characteristics, the construction of the velocity field is performed. "The author regards it his duty to express his gratitude to the editorial reviewer, A. I. Kuznetsov, for valuable and useful observations." There are 24 numbered equations and 6 figures.

ASSOCIATION: none

SUBMITTED: 08Jan62

DATE ACQ: 12Jun63

ENCL: 00

SUB CODE: MA, MD

NR REF SOV: 006

OTHER: 002

Card 2/2

BYKOVTSSEV, G. I. (Voronezh); MYASNYANKIN, Yu. M. (Voronezh)

Theory of the drawing of a rigid plastic strip through curvilinear dies. Izv. AN SSSR. Mekh. i mashinostr. no.3:113-116 My-Je '64.

ACCESSION NR: AP4043891

S/0179/64/000/004/0068/0076

AUTHOR: By*kovtsev, G. I., Semy*kina, T. D.

TITLE: Viscous-plastic flow of round plates and shells of revolution

SOURCE: AN SSSR. Izvestiya. Mekhanika i mashinostroyeniye, no. 4, 1964, 68-76

TOPIC TAGS: limit design, fluidity, plasticity, viscoplastic flow, round plate, shell of revolution, rocket design

ABSTRACT: The authors consider the behavior of viscoplastic shells of revolution for the initial condition of plasticity assumed by Tresk. Usually, the Bingham model is used for such investigations, in which the solid remains rigid until the stressed condition reaches some limit based on the Mises theory. For purposes of simplicity, however, fragmental linear conditions of plasticity can be assumed. The authors state that the relationship between the stress tensor and deformation rate for viscoplastic solids may be plotted by analogy to the theory of flow of strengthened plastic materials. When stresses exist in space the equation of the surface varies as the deformation rate changes:

$$f(\sigma_{ij}, \dot{\epsilon}_{ij}) = 0 \quad (1)$$

Considering this equation as the potential of the deformation rate, we obtain:
Card 1/5.

$$\dot{\epsilon}_{ij} = \lambda \frac{\partial f}{\partial \sigma_{ij}} \quad (2)$$

ACCESSION NR; AP4043891

These two equations show the relationship between the deformation rate and stress for a viscoplastic solid. One of the following three combinations is taken as the basis of the plastic condition:

$$\max |\sigma_i - \sigma_j| = k + \mu \max |e_a - e_a^f| \quad (3)$$

$$\max |\sigma_i - \sigma_j| = k + 2\mu \max |e_a| \quad (4)$$

$$|(\sigma_i - \mu e_i) - (\sigma_j - \mu e_j)| = k \quad (5)$$

Equations are also given for the stresses in different zones.

$$(1a) \quad \sigma_1 = \sigma_2 = k + \mu (2e_1 + e_2)$$

$$(2a) \quad \sigma_1 = 0, \sigma_2 = k + \mu (2e_2 + e_1)$$

$$(3a) \quad \sigma_1 = -k + \mu (e_1 - e_2), \sigma_2 = 0$$

$$(4a) \quad \sigma_1 = \sigma_2 = -k + \mu (2e_1 + e_2)$$

$$(5a) \quad \sigma_1 = 0, \sigma_2 = -k + \mu (2e_2 + e_1)$$

$$(6a) \quad \sigma_1 = k + \mu (e_1 - e_2), \sigma_2 = 0$$

$$(1b) \quad \sigma_1 = \sigma_2 = k + \mu (2e_2 + e_1)$$

$$(2b) \quad \sigma_1 = 0, \sigma_2 = k + \mu (2e_1 + e_2)$$

$$(3b) \quad \sigma_1 = -k + \mu (2e_1 + e_2), \sigma_2 = 0$$

$$(4b) \quad \sigma_1 = \sigma_2 = -k + \mu (2e_2 + e_1)$$

$$(5b) \quad \sigma_1 = 0, \sigma_2 = -k + \mu (e_1 - e_2)$$

$$(6b) \quad \sigma_1 = k + \mu (2e_1 + e_2), \sigma_2 = 0 \quad (6)$$

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ACCESSION NR: AP4043891

The paper then considers shells of revolution under axial loads. The final relationships between the stress and strain of the shell:

[\cap p \cap means "when", and \cup ϕ means "or" -]

$$\begin{aligned} N_1 &= \mp kh(p+q) + \mu h(2e_{10} + e_{20}) \mp F_1' \\ N_2 &= \mp kh(q+r) + \mu h(2e_{10} + e_{20}) \mp F_2' \\ M_1 &= \pm \frac{1}{8} kh^3 (\frac{1}{8} - p^2 - q^2) + \frac{1}{12} \mu h^3 (2\alpha_1 + \alpha_2) \pm \Phi_1' \\ M_2 &= \pm \frac{1}{8} kh^3 (\frac{1}{8} - q^2 - r^2) + \frac{1}{12} \mu h^3 (2\alpha_1 + \alpha_2) \pm \Phi_2' \end{aligned} \quad (7)$$

$$\begin{aligned} N_1 &= \mp kh(p+q) + \mu h(2e_{10} + e_{20}) \mp F_1', \quad N_2 = \pm kh(r-q) \mp F_2' \\ M_1 &= \pm \frac{1}{8} kh^3 (\frac{1}{8} - p^2 - q^2) + \frac{1}{12} \mu h^3 (2\alpha_1 + \alpha_2) \pm \Phi_1' \\ M_2 &= \pm \frac{1}{8} kh^3 (r^2 - q^2) \pm \Phi_2' \end{aligned} \quad (8)$$

$$\begin{aligned} N_1 &= \mp kh(p+q) + \mu h(e_{10} - e_{20}) \mp F_1', \quad N_2 = \pm kh(r-q) \mp F_2' \\ M_1 &= \pm \frac{1}{8} kh^3 (\frac{1}{8} - p^2 - q^2) + \frac{1}{12} \mu h^3 (\alpha_1 - \alpha_2) \pm \Phi_1' \\ M_2 &= \pm \frac{1}{8} kh^3 (r^2 - q^2) \pm \Phi_2' \end{aligned} \quad (9)$$

$$\begin{aligned} N_1 &= \mp kh(p-q) \mp F_1', \quad N_2 = \pm kh(q+r) - \mu h(e_{10} - e_{20}) \mp F_2' \\ M_1 &= \pm \frac{1}{8} kh^3 (q^2 - p^2) \pm \Phi_1' \\ M_2 &= \mp \frac{1}{8} kh^3 (\frac{1}{8} - q^2 - r^2) - \frac{1}{12} \mu h^3 (\alpha_1 - \alpha_2) \pm \Phi_2' \end{aligned} \quad (10)$$

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ACCESSION NR: AP4043891

(11)

$$\begin{aligned} N_1 &= \pm kh(q-p) \mp F_1', \quad N_2 = \pm kh(q+r) + \mu h(e_{10} + 2e_{20}) \mp F_2' \\ M_1 &= \pm \frac{1}{2} kh^2 (q^2 - p^2) \pm \Phi_1' \\ M_2 &= \mp \frac{1}{2} kh^2 (l^2 - q^2 - r^2) + \frac{1}{12} \mu h^2 (x_1 + 2x_2) \pm \Phi_2' \end{aligned}$$

$$\begin{aligned} M_1 &= \mp \frac{1}{2} kh^2 (l^2 - p^2 - q^2) + \frac{1}{12} \mu h^2 (x_1 + 2x_2) \pm \Phi_1' \\ M_2 &= \mp \frac{1}{2} kh^2 (l^2 - q^2 - r^2) + \frac{1}{12} \mu h^2 (x_1 + 2x_2) \pm \Phi_2' \end{aligned}$$

(12)

$$\begin{aligned} F_1' &= \mu h e_{10} (p - q + l - n) + \mu h e_{20} (q + 2p - l - 2n) + \\ &+ \frac{1}{2} \mu h^2 x_1 (p^2 - q^2 + l^2 - n^2) + \frac{1}{2} \mu h^2 x_2 (q^2 + 2p^2 - l^2 - 2n^2) \\ F_2' &= \mu h e_{10} (-q - 2r + l + 2m) + \mu h e_{20} (q - r + m - l) + \\ &+ \frac{1}{2} \mu h^2 x_1 (l^2 + 2m^2 - q^2 - 2r^2) + \frac{1}{2} \mu h^2 x_2 (q^2 - r^2 + m^2 - l^2) \\ \Phi_1' &= \frac{1}{2} \mu h^2 e_{10} (q^2 - p^2 + n^2 - l^2) + \frac{1}{2} \mu h^2 e_{20} (l^2 + 2n^2 - q^2 - 2p^2) + \\ &+ \frac{1}{2} \mu h^2 x_1 (q^2 - p^2 + n^2 - l^2) + \frac{1}{2} \mu h^2 x_2 (l^2 + 2n^2 - 2p^2 - q^2) \\ \Phi_2' &= \frac{1}{2} \mu h^2 e_{10} (q^2 + 2r^2 - l^2 - 2m^2) + \frac{1}{2} \mu h^2 e_{20} (r^2 - q^2 + l^2 - m^2) + \\ &+ \frac{1}{2} \mu h^2 x_1 (q^2 + 2r^2 - l^2 - 2m^2) + \frac{1}{2} \mu h^2 x_2 (r^2 - q^2 + l^2 - m^2) \end{aligned}$$

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Card

ACCESSION NR: AP4043891

The characteristic solutions reached on the basis of all the evolved equations are illustrated by the bending of round viscoplastic plates under lateral loads. Equations are then given for stress and strain. An example is included of a laminated cylindrical shell of length $2L$ resting on the faces under an internal uniform pressure P . The equilibrium equation is

$$\frac{1}{2\pi^2} \frac{d^2 m_1}{dt^2} + n_s - p = 0 \quad (13)$$

It is then found that:

$$W = -\frac{p+1}{2\nu} \left(\frac{\cos \beta \operatorname{ch} \beta \cos \beta t \operatorname{ch} \beta t + \sin \beta \operatorname{sh} \beta \sin \beta t \operatorname{sh} \beta t}{\cos^2 \beta \operatorname{ch}^2 \beta + \sin^2 \beta \operatorname{sh}^2 \beta} - 1 \right) \quad (14)$$

This means that the bending rate obtained from the last equation coincides with the deflection for an elastic solid. Orig. art. has: 4 figures and 43 equations.

ASSOCIATION: none

SUBMITTED: 04Apr64

ENCL: 00

SUB CODE: AS

NO REF SOV: 007

OTHER: 005

Card 5/5

BYKOVTSSEV, G.I. (Voronezh); CHERNYSHOV, A.D. (Voronezh)

Viscoplastic flow in noncircular cylinders in the case of
pressure drop. PMFT no.4:94-96 J1-Ag '64. (MIRA 17:10)

SYROVETEV, G.I. (Voronezh); IVLEV, D.D. (Voronezh); MARTYNOVA, T.N.
(Voronezh)

Theory of the axisymmetric state of an ideally plastic material.
PMTr no.5:102-108 S-O '64.

(MIRA 18:4)

L 2995L-65 EWT(d)/EWT(m)/EWP(w)/EWA(d)/EWP(r)/EWP(k)/EWA(h) Pf-L/Peb EM

ACCESSION NR: AP5005174

S/0179/64/000/006/0069/0077

AUTHOR: Bykovtsev, G. I. (Voronezh)

TITLE: On the equilibrium limit of anisotropic plates and shells of rotation 29

SOURCE: AN SSSR. Izvestiya. Mekhanika i mashinostroyeniye, no. 6, 1964, 69-77

TOPIC TAGS: yield point, stress load, plasticity, anisotropy, shear stress, shell theory

ABSTRACT: The equilibrium limit of anisotropic plates and shells of rotation under fragmentary-linear conditions of plasticity is studied analytically. In part one an ideal anisotropic plastic plate is considered, and a simplified model is given to determine the yield point in tension and compression. The plasticity conditions of the body are represented in the deviatoric plane $\sigma_1 + \sigma_2 + \sigma_3 = 0$ by an irregular hexagon. The anisotropy is assumed to be such that at each point in the body there are at least three mutually perpendicular principal axes. The principal deformation rates are expressed by the associated flow principle. The hexagonal flow pattern in the plane of the two deformations ϵ_1 and ϵ_2 is discussed in some detail. In part two, anisotropic shells of rotation are discussed where the principal axes of anisotropy are assumed to lie in the meridional and circumferential directions. It
Card 1/2

L 29954-65

ACCESSION NR: AP5005174

is also assumed that the deformation rate is a linear function of the shell thickness. The deformation state of the shell along its thickness is determined geometrically on an irregular hexagon in the plane $\varepsilon_1, \varepsilon_2$ and from the associated flow principle the shell stress conditions are determined. For a yield point in tension equal to the yield point in compression the form of the hypersurface flow equations derived above is simplified. An example is given of a circular plate compressed along its internal contour by the horizontal force T and loaded with a uniformly distributed transverse pressure q_n . The outside edge of the plate $\rho = b$ is hinged and the inside edge $\rho = a$ is freely supported. For the carrying capacity of the plate the following expression is obtained: $q_n = \frac{k_s(2 + \alpha) [h^2(b^2 - a^2) - (Ta^2/k_s)]}{2(b^2 - a^2) [ab^2(b^2 - a^2) + 2a^2(a^2 - b^2)]}$.

A final note is added describing the case for yield point in pure shear. Orig. art. has: 32 equations, 4 figures, and 1 table.

ASSOCIATION: none

SUBMITTED: 20Dec63

ENCL: 00

SUB CODE: AS

NO REF SOV: 007

OTHER: 005

Card 2/2

BR

ACCESSION NR: AP4027593

S/0040/64/028/002/0356/0360

AUTHOR: Bykovtsev, G. I. (Voronezh)

TITLE: On the consequences of the Drucker postulate concerning plastic anisotropic media

SOURCE: Prikladnaya matematika i mekhanika, v. 28, no. 2, 1964, 356-360

TOPIC TAGS: anisotropic medium, plastic flow, stress strain relation, nonconcave surface, elastic limit, surface load

ABSTRACT: The restrictions of the Drucker postulate (D. C. Drucker. Some implications of work hardening and ideal plasticity, Quart. Appl. Math. 1950, 7; A more fundamental approach to plastic stress-strain relations. Proc. First U.S. Nat. Congr. Appl. Mech. 1952) on possible fluidity limits of anisotropic media under stress or strain have been discussed. An elastic-plastic body is considered with initial or acquired anisotropy under a system of body forces and surface loads with stress state σ_{ij} . Also, one may add and slowly remove a time-dependent load. According to Drucker $(\sigma_{ij} - \sigma_{ij}^*) \dot{\epsilon}_{ij} \geq 0$ where $\dot{\epsilon}_{ij}$ - rate of plastic deformation. Representing the fluid surface by $\varphi(\sigma_{ij}) = 1$, the 6-dimensional surface becomes nonconcave, and the plastic deformation rate yields $\dot{\epsilon}_{ij} = \lambda \frac{\partial \varphi}{\partial \sigma_{ij}}$.
Card 1/2

ACCESSION NR: AP4027593

Under stress or strain the functions $k(\alpha_i)$ and $s(\alpha_i)$ (where α_i - cosine of angle between stress direction and xyz coordinate axes) are studied analytically to determine the limits of fluidity implied by the Drucker postulate. This leads to inequality $\frac{d^2k}{d\varphi^2} + 3k + \frac{1}{k} \left(\frac{dk}{d\varphi} \right)^2 \geq 0$ which is true for any φ , including $\varphi = 0$, and in any body surface plane. Orig. art. has: 23 equations, 4 figures, and 1 table.

ASSOCIATION: none

SUBMITTED: 15Nov63

DATE ACQ: 28Apr64

ENCL: 00

SUB CODE: ME

NO REF SOV: 001

OTHER: 003

Card 2/2

EYKOVTSSEV, G.I. (Voronezh); DUDUKALENKO, V.V. (Voronezh); IVLEV, D.D.
(Voronezh).

Functions of loading of an anisotropically hardening plastic
materials; Prikl. mat. i mekh. 28 no.4:794-797 J1-Ag 64
(MIRA 17:8)

BYKOVTSSEV, G.I.

Anisotropic case hardening of a plastic layer compressed
by rough plates. Dokl. AN SSSR 157 no.1:66-68 J1 '64
(MIRA 17:8)

1. Voronezhskiy gosudarstvennyy universitet. Predstavleno
akademikom A. Yu. Ishlinskim.

BYKOVTSSEV, G.I. (Voronezh); IVLEV, D.D. (Voronezh); MARTYNOVA, T.N.
(Voronezh)

Properties of general equations in the theory of an isotropic
ideally plastic body with piecewise-linear potentials. Izv.
AN SSSR. Mekh. no.1:56-63 Ja-F '65. (MIRA 18:5)

L 46183-66		EWT(d)/EWT(m)/EWT(w)/EWT(t)/ETI/EWT(k)		IJP(c)	JD/HW/EM
ACC NR:	AP6013894	SOURCE CODE: UR/0020/66/167/006/1260/1262			
AUTHOR: Bykovtsev, G. I.; Myasnyankin, Yu. M. (Academician)					43 B
ORG: Voronezh State University (Voronezhskiy gosudarstvennyy universitet)					
TITLE: Slip surfaces in three dimensional rigid plastic bodies					
SOURCE: AN SSSR. Doklady, v. 167, no. 6, 1966, 1260-1262					
TOPIC TAGS: plastic strength, shear stress					
<p>ABSTRACT: By the slip surface is understood the surface at which the material experiences the maximum clean shear. The article is an attempt to demonstrate mathematically that the surfaces of discontinuity of the velocities and the surfaces of discontinuity of the rate of deformation coincide with the slip surfaces. After an extended mathematical treatment the article arrives at the relationship</p> $\frac{\partial [u^a]}{\partial y_r} g_{ra} + \frac{\partial [u^a]}{\partial y_s} g_{sa} = 0. \quad (22)$ <p>which defines a system of three equations which must be satisfied by the</p>					
Card 1/2					UDC: 539.214

L 6183-66

ACC NR: AP6013894

discontinuities in the velocities at the slip surface. Orig. art. has:
22 formulas.

SUB CODE: 11, 20/ SUBM DATE: 16Jul65/ ORIG REF: 005/ OTH REF: 001

Card 2/2^v

BYKOVTSSEV, N., inzh.; TKACHENKO, Ye. (Lugansk)

Our readers' letters. Izobr.i rats. no.12:41 D '58. (MIRA 11:12)

1. Predsedatel' Luganskogo oblastnogo soveta Vsesoyuznogo obshchestva
izobretateley i ratsionalizatorov.
(Efficiency, Industrial)

BYKOWSKI, W.

BYKOWSKI, W. Beef as raw material for production of sausages. p. 14.

Role of scientific research institutes of industry in the development
of technical progress in the 5-Year Plan. p. 16.

Vol. 8, No. 1, Jan. 1956

GOSPODARKA MIESNA

TECHNOLOGY

Warszawa, Poland

So: East European Accession, Vol. 5, No. 5, May 1956

BYKOWSKI, W.

Objective method of the determination of moisture in meat. p. 9

GOSPODARKA MIESNA. (Polskie Wydawnictwa Gospodarcze) Warrszawa, Poland
Vol. 11, no. 11, Nov. 1959

Monthly List of East European Accessions. (EEIA) LC. Vol. 9, no. 1, Jan. 1960

Uncl.

BYKOWSKI, Wojciech; TRAWINSKI, Jerzy

Spectrographic determination of magnesium in cathode nickel.
Chem anal 5 no.3:361-367 '60. (EEAI 10:8)

1. Zakłady Wytworcze Lamp Elektrycznych im. Rozy Luksemburg,
Warszawa; Kierownik Laboratorium: inż. Lech Magajewski.
(Spectrum analysis) (Magnesium) (Nickel)

BYKOWSKI, Wojciech

Spectrographic determination of silicon, iron, aluminum, manganese,
and copper in cathode nickel. Chem anal 6 no.2:265-268 '61.
(EPAI 10:9)

1. Zaklady Wytworze Lamp Elektrycznych im. Rozy Luksemburg, Warszawa.

(Silicon) (Iron) (Manganese) (Copper) (Nickel)
(Spectrum analysis) (Aluminum)

BYKOWSKI, Wojciech

Spectrographic determination of magnesium in the range of 0,025-0, 20%
in cathode nickel. Przegl elektroniki 3 no.8:458-464 Ag '62.

1. Zaklady Wytworcze Lamp Elektrycznych, Warszawa.

BYKOWSKI, Wojciech

Quantitative determination of Si, Al, Mn, Cu, Fe in cathode nickel
by means of spectrography. Przegl elektroniki 3 no. 5:231-233. My
' 62

1. Zaklady Wytworcze Lamp Elektrycznych, Warszawa.